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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/632,034	07/30/2003	Andrew Kirk Dummer	031850/267283	9660

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EXAMINER

FRANK, RODNEY T

ART UNIT PAPER NUMBER

2856

DATE MAILED: 02/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/632,034

Applicant(s)

DUMMER ET AL.

Examiner

Rodney T. Frank

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 7-9, 12-16 and 18-20 is/are rejected.
- 7) ☒ Claim(s) 4-6, 10, 11 and 17 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>12/22/03</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1 -3, 7-9, 12-16, and 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Camp et al. (European Patent Application 0 501 811; hereinafter referred to as Camp). Camp discloses an apparatus and method for obtaining adsorption data to be used for surface area and pore volume analysis. The apparatus and method utilize the differential pressures between a pair of dosing systems to indicate the amount of gas adsorbed by a sample. The system doses a sample chamber and a null chamber from essentially equal volumes of gas, and causes the chambers to be dosed such that any pressure difference between them, caused by adsorption, is eliminated. The resulting differential pressure between the essentially equal volumes of gas then indicates the amount of gas adsorbed by the sample. The system may be operated to dose in equilibrated increments or in a scanning mode in which adsorbate gas is continuously leaked into the sample chamber. A feedback circuit then controls dosing into the null chamber to eliminate the pressure difference caused by adsorption onto the sample surface. A differential pressure transducer connecting the volumes from which the gas is released then indicates the amount of gas adsorbed (Please see the abstract).

3. With regard to claim 1, Camp discloses a method of determining absorption, which is a property of a porous sample having a mass, the method comprising evacuating a first vessel to a

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sub-atmospheric pressure (see column 6 lines 28-38 and column 17 line 44), establishing a test pressure in a second vessel having a sample disposed within (see figure 1 and column 9 line 47 through column 10 line 5). Camp discloses that the second vessel is usually empty, thus it would be at atmosphere. Column 17, beginning at line 41, disclose a procedure of equalizing/balancing both sides. Though the procedure spell out in detail does not follow the exact procedure as claimed, the examiner feels that the two procedures obtain the same results and therefore would be deemed as obvious equivalents of each other. Camp also does not explicitly disclose that envelopes are utilized for either the volume or density. However, since utilizing data and interpreting said data as an envelope in order to obtain results is well established in the field of measurement and its use to obtain a property of a sample would be well within the preview of one of ordinary skill in the art. The utilization of computations of volume and density can be found beginning in column 19 with line 56 and concluding in column 20 with line 25.

With regard to claims 2 and 3, finding a volume and density of the sample based upon the equalization pressure is disclosed beginning in column 19 with line 56 and concluding in column 20 with line 25.

With regard to claim 7, the cycles of purging the system can be seen in the flow chart in Figure 7.

With regard to claim 8, column 17 discloses the balancing routine whereby the sample Torr is reduced is disclosed beginning in column 17 with line 24 and concluding in column 18 line 36. In this section, Camp discloses that the system is assumed to reach a pressure of 30 Torr, and continued to be evacuated and monitored until it reaches 5 Torr. Therefore, though 20 Torr is not explicitly disclosed, the value is not disclosed to produce any advantage nor any unexpected results obtained from said value, so this is deemed as a design choice as one of ordinary skill would

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desire to operate the device such that optimum results are obtained, no matter what that particular "optimum" value may be.

With regard to claim 9, since 760 Torr is considered 1 atmosphere, and the second vessel in Camp is initially empty, then this limitation would appear disclosed.

With regard to claims 12-16, since the method for operating a device is disclosed, as discussed above, then the apparatus that follows the method would also be disclosed. Claims 12-16 are for a device that follows the methods disclosed above, and therefore a device that is capable of operating according to disclosed methods would also be deemed as disclosed.

With regard to claim 18, though the material the vessel is constructed of is not explicitly disclosed, it is disclosed in column 5 lines 54-57 that the chambers need to be capable of immersion in a cryogenic bath. Since it is well established that aluminum containers are used for testing with cryogenic baths, then this limitations would be deemed a design choice well within the preview of one of ordinary skill in the art.

With regard to claims 19 and 20, the use of a computer o controller is disclosed in column 12. While the exact operation of the computer program is not explicitly what is claimed, the programming of a computer in order to ascertain data is an obvious design choice that is well within the preview of one of ordinary skill in the art.

Allowable Subject Matter

4. Claims 4-6, 10, 11, and 17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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5. The following is a statement of reasons for the indication of allowable subject matter: The method whereby a theoretical maximum specific gravity, in combination with all other limitations that would encompass claim 4 is not disclosed nor deemed obvious in view of the prior art of record.

The determination of a bulk gravity of a sample in combination with all other limitations that would encompass claims 5 and 6 are not disclosed nor deemed obvious in view of the prior art of record.

The specific computation and evaluation steps in claims 10 and 11 are not disclosed nor deemed obvious in view of the prior art of record.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rodney T. Frank whose telephone number is (571) 272-2193. The examiner can normally be reached on M-F 9am -5:30p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron E. Williams can be reached on (571) 272-2208. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


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RTF

February 5, 2005


HEZRON WILLIAMS
SUPERVISORY PATENT EXAMINER
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